

## General

## 1.1 Customer Information

Company	PICEANCE VLY
Representative	
Address	

## 1.2 Well Information

Well	RWF 14-36	Wellbore No.	
Well Name	RWF 14-36	Common Name	RWF 14-36
Project	RU 36-06S-094W	Site	RWF 33-36 Pad
Vertical Section Azimuth	220.89 (°)	North Reference	True
Origin N/S		Origin E/W	
Spud Date	11/17/2012	UWI	RWF 14-36
Active Datum	KB @6,554.0ft (above Mean Sea Level)		

## 2 Survey Name

## 2.1 Survey Name: Survey #1

Survey Name	Survey #1	Company	
Date Started	11/17/2012	Ended	
Tool Name	MWD	Engineer	

## 2.1.1 Tie On Point

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)
0.0	0.00	0.00	0.00	0.00	0.00

## 2.1.2 Survey Stations

Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
11/17/2012	Tie On	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11/17/2012	NORMAL	82.0	0.18	172.27	82.00	-0.13	0.02	0.09	0.22	0.22	0.00	172.27
	NORMAL	180.0	3.52	224.91	179.94	-2.41	-2.09	3.19	3.48	3.41	53.71	55.04
	NORMAL	272.0	5.37	219.90	271.66	-7.71	-6.84	10.31	2.05	2.01	-5.45	345.64
	NORMAL	364.0	6.86	219.81	363.13	-15.24	-13.12	20.11	1.62	1.62	-0.10	359.59
	NORMAL	434.0	9.44	222.62	432.42	-22.68	-19.69	30.03	3.73	3.69	4.01	10.17
	NORMAL	524.0	13.47	220.24	520.61	-36.11	-31.46	47.90	4.51	4.48	-2.64	352.14
	NORMAL	616.0	15.20	219.86	609.74	-53.55	-46.11	70.67	1.88	1.88	-0.41	356.70
	NORMAL	707.0	18.68	222.38	696.78	-73.48	-63.59	97.17	3.91	3.82	2.77	13.12
	NORMAL	799.0	22.74	222.12	782.82	-97.56	-85.45	129.69	4.41	4.41	-0.28	358.58
	NORMAL	890.0	24.74	220.92	866.11	-125.00	-109.72	166.32	2.26	2.20	-1.32	345.87
	NORMAL	980.0	25.99	217.95	947.44	-154.78	-134.19	204.85	1.98	1.39	-3.30	313.14
	NORMAL	1,071.0	26.98	220.90	1,028.89	-186.11	-159.97	245.41	1.81	1.09	3.24	54.36
	NORMAL	1,138.0	27.39	219.72	1,088.49	-209.45	-179.77	276.02	1.01	0.61	-1.76	306.73
11/19/2012	NORMAL	1,260.0	27.56	220.56	1,196.73	-252.48	-216.05	332.30	0.35	0.14	0.69	66.69
	NORMAL	1,355.0	27.73	220.53	1,280.88	-285.98	-244.71	376.38	0.18	0.18	-0.03	355.3
	NORMAL	1,450.0	26.36	220.52	1,365.49	-318.81	-272.77	419.57	1.44	-1.44	-0.01	180.19
	NORMAL	1,546.0	26.12	220.52	1,451.60	-351.07	-300.35	462.01	0.25	-0.25	0.00	180.00
	NORMAL	1,641.0	25.87	219.93	1,536.99	-382.86	-327.24	503.65	0.38	-0.26	-0.62	225.70
	NORMAL	1,737.0	26.73	219.71	1,623.05	-415.53	-354.48	546.17	0.90	0.90	-0.23	353.43
	NORMAL	1,832.0	27.99	219.84	1,707.42	-449.09	-382.41	589.82	1.33	1.33	0.14	2.77

## 2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (%/100ft)	Build Rate (%/100ft)	Turn (%/100ft)	TFace (°)
11/19/2012	NORMAL	1,927.0	27.17	219.71	1,791.63	-482.89	-410.55	633.80	0.87	-0.86	-0.14	184.14
	NORMAL	2,021.0	27.17	221.92	1,875.26	-515.37	-438.60	676.72	1.07	0.00	2.35	90.98
	NORMAL	2,117.0	27.52	221.09	1,960.53	-548.40	-467.82	720.81	0.54	0.36	-0.86	312.18
	NORMAL	2,212.0	26.06	222.66	2,045.33	-580.29	-496.39	763.62	1.71	-1.54	1.65	154.84
	NORMAL	2,308.0	25.93	222.87	2,131.62	-611.18	-524.96	805.67	0.17	-0.14	0.22	144.80
	NORMAL	2,402.0	26.12	223.49	2,216.09	-641.25	-553.18	846.88	0.35	0.20	0.66	55.35
	NORMAL	2,498.0	26.20	222.87	2,302.25	-672.11	-582.14	889.17	0.30	0.08	-0.65	286.03
	NORMAL	2,594.0	26.71	222.82	2,388.20	-703.47	-611.23	931.91	0.53	0.53	-0.05	357.48
	NORMAL	2,690.0	26.96	220.68	2,473.87	-735.80	-640.08	975.24	1.04	0.26	-2.23	283.55
	NORMAL	2,785.0	27.17	220.28	2,558.46	-768.68	-668.14	1,018.46	0.29	0.22	-0.42	318.91
	NORMAL	2,881.0	27.32	219.99	2,643.81	-802.28	-696.46	1,062.41	0.21	0.16	-0.30	318.36
	NORMAL	2,977.0	27.90	220.73	2,728.88	-836.18	-725.28	1,106.90	0.70	0.60	0.77	30.92
	NORMAL	3,072.0	27.68	221.26	2,812.92	-869.61	-754.33	1,151.19	0.35	-0.23	0.56	131.91
	NORMAL	3,168.0	26.97	220.82	2,898.21	-902.84	-783.27	1,195.25	0.77	-0.74	-0.46	195.68
	NORMAL	3,263.0	27.00	219.96	2,982.87	-935.68	-811.20	1,238.36	0.41	0.03	-0.91	274.01
	NORMAL	3,359.0	26.98	220.27	3,068.41	-968.99	-839.27	1,281.92	0.15	-0.02	0.32	98.23
	NORMAL	3,455.0	27.15	219.15	3,153.90	-1,002.60	-867.18	1,325.59	0.56	0.18	-1.17	287.95
	NORMAL	3,551.0	27.06	219.89	3,239.36	-1,036.34	-895.01	1,369.32	0.36	-0.09	0.77	105.27
	NORMAL	3,646.0	26.62	221.54	3,324.12	-1,068.85	-922.98	1,412.21	0.91	-0.46	1.74	121.30
	NORMAL	3,742.0	26.61	221.43	3,409.95	-1,101.07	-951.47	1,455.21	0.05	-0.01	-0.11	258.48
	NORMAL	3,836.0	27.02	221.92	3,493.84	-1,132.74	-979.67	1,497.61	0.50	0.44	0.52	28.55
11/20/2012	NORMAL	3,932.0	27.30	220.69	3,579.26	-1,165.66	-1,008.59	1,541.43	0.65	0.29	-1.28	295.96
	NORMAL	4,026.0	26.63	220.87	3,663.04	-1,197.93	-1,036.43	1,584.05	0.72	-0.71	0.19	173.13
	NORMAL	4,122.0	26.22	221.58	3,749.01	-1,230.07	-1,064.58	1,626.77	0.54	-0.43	0.74	142.70
	NORMAL	4,217.0	26.33	220.85	3,834.19	-1,261.70	-1,092.29	1,668.83	0.36	0.12	-0.77	288.47
	NORMAL	4,313.0	26.92	221.68	3,920.01	-1,294.04	-1,120.67	1,711.85	0.73	0.61	0.86	32.60
	NORMAL	4,405.0	26.91	222.26	4,002.05	-1,325.00	-1,148.52	1,753.49	0.29	-0.01	0.63	92.44
	NORMAL	4,501.0	26.91	221.38	4,087.65	-1,357.38	-1,177.49	1,796.93	0.41	0.00	-0.92	269.61
	NORMAL	4,595.0	26.90	221.50	4,171.48	-1,389.27	-1,205.64	1,839.46	0.06	-0.01	0.13	100.49
	NORMAL	4,691.0	26.91	220.76	4,257.09	-1,421.99	-1,234.21	1,882.90	0.35	0.01	-0.77	271.38
	NORMAL	4,786.0	26.55	220.53	4,341.93	-1,454.41	-1,262.04	1,925.63	0.39	-0.38	-0.24	195.93
	NORMAL	4,882.0	26.22	220.30	4,427.93	-1,486.89	-1,289.70	1,968.29	0.36	-0.34	-0.24	197.11
	NORMAL	4,978.0	26.12	220.05	4,514.09	-1,519.24	-1,317.02	2,010.63	0.16	-0.10	-0.26	227.68
11/21/2012	NORMAL	5,073.0	25.56	221.17	4,599.59	-1,550.67	-1,343.97	2,052.03	0.78	-0.59	1.18	139.42
	NORMAL	5,168.0	23.44	222.30	4,686.04	-1,580.08	-1,370.18	2,091.42	2.29	-2.23	1.19	168.05
	NORMAL	5,263.0	21.25	221.73	4,773.90	-1,606.91	-1,394.36	2,127.53	2.32	-2.31	-0.60	185.39
	NORMAL	5,359.0	20.92	223.43	4,863.47	-1,632.34	-1,417.72	2,162.05	0.72	-0.34	1.77	119.14
	NORMAL	5,454.0	19.79	222.79	4,952.54	-1,656.46	-1,440.30	2,195.06	1.21	-1.19	-0.67	190.85
	NORMAL	5,550.0	17.72	225.68	5,043.44	-1,678.59	-1,461.80	2,225.87	2.36	-2.16	3.01	157.19
	NORMAL	5,646.0	15.56	227.80	5,135.41	-1,697.45	-1,481.79	2,253.21	2.34	-2.25	2.21	165.31
	NORMAL	5,741.0	14.65	228.18	5,227.13	-1,714.02	-1,500.18	2,277.78	0.96	-0.96	0.40	173.97
	NORMAL	5,836.0	13.70	227.18	5,319.23	-1,729.68	-1,517.39	2,300.88	1.03	-1.00	-1.05	193.97
	NORMAL	5,932.0	12.83	226.23	5,412.67	-1,744.78	-1,533.43	2,322.79	0.93	-0.91	-0.99	193.60
	NORMAL	6,027.0	11.70	221.99	5,505.50	-1,759.24	-1,547.49	2,342.92	1.52	-1.19	-4.46	216.50
	NORMAL	6,123.0	10.69	220.08	5,599.68	-1,773.28	-1,559.73	2,361.56	1.12	-1.05	-1.99	199.23
	NORMAL	6,219.0	9.09	214.44	5,694.25	-1,786.35	-1,569.75	2,378.00	1.95	-1.67	-5.87	208.44
11/22/2012	NORMAL	6,315.0	7.23	214.17	5,789.27	-1,797.61	-1,577.44	2,391.54	1.94	-1.94	-0.28	181.05
	NORMAL	6,411.0	6.60	214.96	5,884.57	-1,807.13	-1,583.99	2,403.02	0.66	-0.66	0.82	171.81
	NORMAL	6,506.0	6.33	203.80	5,978.97	-1,816.39	-1,589.23	2,413.46	1.35	-0.28	-11.75	252.37
	NORMAL	6,602.0	5.19	200.99	6,074.49	-1,825.29	-1,592.92	2,422.60	1.22	-1.19	-2.93	192.50
	NORMAL	6,695.0	4.64	204.77	6,167.15	-1,832.63	-1,596.01	2,430.17	0.69	-0.59	4.06	151.38
	NORMAL	6,791.0	3.44	202.64	6,262.91	-1,838.82	-1,598.74	2,436.84	1.26	-1.25	-2.22	186.07
11/23/2012	NORMAL	6,887.0	2.04	198.20	6,358.79	-1,843.10	-1,600.38	2,440.95	1.47	-1.46	-4.63	186.41
	NORMAL	6,980.0	1.49	222.79	6,451.75	-1,845.56	-1,601.72	2,443.68	0.99	-0.59	26.44	137.85
	NORMAL	7,076.0	1.23	290.11	6,547.73	-1,846.12	-1,603.54	2,445.30	1.59	-0.27	70.13	131.82
	NORMAL	7,172.0	1.88	334.27	6,643.70	-1,844.35	-1,605.19	2,445.04	1.37	0.68	46.00	84.81
	NORMAL	7,267.0	2.55	342.32	6,738.63	-1,840.93	-1,606.51	2,443.32	0.78	0.71	8.47	28.97

## 2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLS (°/100ft)	Build Rate (°/100ft)	Turn (°/100ft)	TFace (°)
11/23/2012	NORMAL	7,363.0	2.20	343.99	6,834.54	-1,837.12	-1,607.67	2,441.20	0.37	-0.36	1.74	169.65
	NORMAL	7,456.0	1.95	6.64	6,927.48	-1,833.83	-1,607.97	2,438.91	0.91	-0.27	24.35	118.06
	NORMAL	7,552.0	1.47	20.49	7,023.44	-1,831.06	-1,607.35	2,436.41	0.66	-0.50	14.43	146.05
	NORMAL	7,647.0	1.00	26.59	7,118.42	-1,829.18	-1,606.56	2,434.46	0.51	-0.49	6.42	167.41
	NORMAL	7,743.0	1.26	46.62	7,214.40	-1,827.70	-1,605.41	2,432.60	0.49	0.27	20.86	66.93
	NORMAL	7,838.0	1.02	44.40	7,309.38	-1,826.38	-1,604.06	2,430.72	0.26	-0.25	-2.34	189.32
11/24/2012	NORMAL	7,934.0	0.88	67.31	7,405.37	-1,825.49	-1,602.79	2,429.21	0.42	-0.15	23.86	121.44
	NORMAL	8,030.0	0.97	43.66	7,501.36	-1,824.61	-1,601.55	2,427.73	0.41	0.09	-24.64	271.26
	NORMAL	8,125.0	0.79	70.91	7,596.35	-1,823.82	-1,600.37	2,426.36	0.47	-0.19	28.68	126.50
	NORMAL	8,221.0	0.44	94.11	7,692.34	-1,823.63	-1,599.38	2,425.57	0.44	-0.36	24.17	155.79
	NORMAL	8,316.0	0.35	157.66	7,787.34	-1,823.92	-1,598.90	2,425.48	0.45	-0.09	66.89	132.20
	NORMAL	8,411.0	1.14	187.10	7,882.33	-1,825.13	-1,598.91	2,426.40	0.90	0.83	30.99	41.08
	NORMAL	8,508.0	1.23	188.77	7,979.31	-1,827.11	-1,599.19	2,428.08	0.10	0.09	1.72	21.83
11/25/2012	NORMAL	8,603.0	1.49	203.98	8,074.28	-1,829.25	-1,599.85	2,430.13	0.47	0.27	16.01	62.00
	NORMAL	8,699.0	2.29	200.90	8,170.23	-1,832.18	-1,601.04	2,433.12	0.84	0.83	-3.21	351.22
	NORMAL	8,794.0	2.86	208.66	8,265.13	-1,836.04	-1,602.85	2,437.22	0.70	0.60	8.17	35.37
	NORMAL	8,890.0	2.02	208.08	8,361.04	-1,839.63	-1,604.80	2,441.21	0.88	-0.88	-0.60	181.39
	NORMAL	8,985.0	1.14	227.53	8,456.01	-1,841.75	-1,606.28	2,443.79	1.07	-0.93	20.47	158.12
	NORMAL	9,081.0	1.47	230.86	8,551.98	-1,843.17	-1,607.94	2,445.95	0.35	0.34	3.47	14.6°
11/26/2012	NORMAL	9,177.0	1.52	241.68	8,647.95	-1,844.55	-1,610.02	2,448.35	0.30	0.05	11.27	85.39
	NORMAL	9,241.0	1.93	241.15	8,711.92	-1,845.47	-1,611.71	2,450.16	0.64	0.64	-0.83	357.5°
11/27/2012	NORMAL	9,297.0	1.93	241.15	8,767.89	-1,846.38	-1,613.36	2,451.92	0.00	0.00	0.00	0.00